ABSTRACT

[0049] An apparatus and method for fabricating a high performance reflective material for use on scintillator elements in a computed tomograph (CT) imaging device. Adjacent scintillator elements are separated by gaps filled with a reflective coating layer. In one embodiment, the reflective coating layer consists of a surface level coating layer, an adhesion layer, a metallic reflective layer, and a top layer consisting of either a barrier coating layer or a polymeric encapsulant, or both. In another embodiment, the metallic reflective coating layer is applied to the scintillator element via an electroless metal deposition process utilizing a reducing agent and a metal complex. The CT reflectors formed by either embodiment have improved light output, minimized cross talk, higher geometric efficiency, and decreased performance degradation as compared with current CT reflectors that utilize organic binders and titanium dioxide fillers is achieved.